

entitled "Multipath Scan Data Signal Processor Having Multiple Signal Processing Paths With Different Operational Characteristics To Enable Processing Of Signals Having Increased Dynamic Range" by Mark Lucera and Joseph Ralph] 10/045,605 filed January 11, 2002; 09/990,585 filed November 21, 2001; 09/999,687 filed October 31, 2001; 09/954,477 filed September 17, 2001; and 09/551,887 filed April 18, 2000; and is also related to International Application PCT/US01/44011 filed November 21, 2001; each of said Applications being owned by Assignee, Metrologic Instruments, Inc., of Blackwood, New Jersey, and incorporated herein by reference as if fully set forth herein.

AMENDMENT OF THE CLAIMS TO INVENTION

Please cancel Claims 1-32 without prejudice or disclaimer and add Claims 33-80 as follows:

- 33. A point of sale (POS) station for installation in a retail shopping environment, comprising:
- a counter-surface installed in said retail shopping environment; and
 - a bar code reading system installed in said counter-surface, said bar code reading system including:
 - a bioptical laser scanning bar code reading unit having a bottom portion having a horizontal scanning window installable through said counter-surface, and a vertical portion operably connected with said bottom portion and having a vertical scanning window;
 - an electronic produce scale integrated within said bottom portion of said bioptical laser scanning bar code reading unit;
 - a housing connected to said vertical portion of said bioptical laser scanning bar code reading unit, defining a cashier's side of the system and a customer's side of the system;
 - a cashier-scale terminal integrated with said bioptical laser scanning bar code reading unit, and having a first visual display panel and a first keyboard provided on the cashier's side of said housing; and
 - a customer-kiosk terminal integrated with said bioptical laser scanning bar code reading unit, and having with a second visual display panel and second keyboard integrated therewith provided on the customer's side of said housing;

wherein the first display panel at said cashier-scale terminal enables the cashier to enter information into said cashier-scale terminal regarding produce items to be weighed by said electronic produce scale, as well as display such information for the cashier to review; and

wherein the second display panel at said customer-kiosk terminal enables the customer to view the displayed price of scanned items and the displayed weight and price of weighed items, as well as enter and display information pertaining to financial transactions being carried out in connection with the purchase of products and/or produce at said POS environment.--

--34. The POS station of claim 33, wherein said electronic produce scale further comprises a produce weigh tray supported upon said bioptical laser scanning bar code reading unit and having a recessed surface region for slidably receiving the full weight of produce items under gravitational loading so that the full weight of the produce items to be purchased is accurately measured by said electronic produce scale integrated within the bottom portion of bioptical laser scanning bar code reading unit.--

--35. The POS station of claim 33, wherein said customer-kiosk terminal is realized as a modular assembly connectable to said housing, and wherein said modular assembly comprises an ATM submodule removably detached to a first installation port provided on said housing, and a phone submodule removably detached to a second installation port provided on said housing.--

--36. The POS station of claim 33, wherein the second display panel associated with said customer-kiosk terminal is provided with an Advertisement/Promotion Mode capable of displaying advertisements and/or promotions while the cashier is not scanning products and the price and product information thereof is not being displayed on said second display panel.--

--37. The POS station of claim 36, wherein said advertisements and promotions can relate to the products offered for sale in the kiosk-hosting retailer store, services and products offered for sale in local and/or regional markets, as well as community news, sporting events, recreational events as well as local educational programs.--

--38. The POS station of claim 33, wherein said bioptical laser scanning bar code reading unit comprises:

a plurality of VLDs, light focusing optics, scanning motors and scanning optics for producing and scanning laser scanning beams so as to project a laser scanning pattern through the horizontal and vertical scanning windows of the system, and scan bar codes on objects being moved thereby by the cashier, and light collection optics for collecting the focusing the return laser light signal for subsequent photodetection;

a plurality of laser scan data generator and processing modules including a plurality of photodetectors, for producing scan data signals, that are ultimately decode-processed in order to produce symbol character data representative of the bar code symbol scanned by the system; and

a computing platform including a microprocessor, a memory architecture, a system bus architecture and an I/O interface connected to the system bus architecture for enabling the collection, processing and transport of data elements generated by the various components in the system.--

--39. The POS station of claim 38, wherein said computing platform has an operating system (OS), networking software to support the TCP/IP protocol, and Internet access software to access the WWW and other information resources on the Internet.--

--40. The POS station of claim 39, wherein said first visual display panel is realized as a first LCD panel, said second display panel is realized as a second LCD panel, and second keyboard is realized as a touch-screen keypad mounted on said second LCD panel.--

--41. The POS station of claim 33, wherein said customer-kiosk terminal further comprises a bar code symbol reader integrated with said computing platform.--

--42. The POS station of claim 38, wherein said customer-kiosk terminal comprises:

a network interface controller (NIC) card operably connected to a system bus architecture, for enabling data packet communications over an packet-switched information network; and

a multi-port Ethernet hub device connected to said NIC card and said customer-kiosk terminal, so that said system has one or more Ethernet data ports for operable connection to said packet-switched network.--

--43. The POS station of claim 41, wherein said customer-kiosk terminal further comprises a voice-over-IP telephone handset integrated with said computing system, and having software components running thereon to support its voice communication functions over the Internet, or alternatively, over a Public Telecommunications Switching Network (PTSN).--

--44. The POS station of claim 33, wherein the vertical portion of said bioptical laser scanning bar code reading unit, said cashier-scale terminal, and said customer-kiosk terminal are contained in a housing of generally unitary construction.--

--45. A point of sale (POS) station for installation in a retail shopping environment, comprising:
a counter-surface installed in said retail shopping environment; and
a bar code reading system installed in said counter-surface, said bar code reading system including:

a bioptical laser scanning bar code reading unit having a bottom portion having a horizontal scanning window, and a vertical portion operably connected with said bottom portion and having a vertical scanning window;

an electronic produce scale integrated within said bottom portion of said bioptical laser scanning bar code reading unit;

a housing connected to said vertical portion of said bioptical laser scanning bar code reading unit, defining a cashier's side of the system and a customer's side of the system;

a cashier-scale terminal integrated with said bioptical laser scanning bar code reading unit, and having a first visual display panel and a first keyboard provided on the cashier's side of said housing, and

customer-kiosk terminal integrated with said bioptical laser scanning bar code reading unit, and having with a second visual display panel and second keyboard integrated therewith provided on the cashier's side of said housing;

wherein the first display panel at said cashier-scale terminal enables the cashier to enter information into said cashier-scale terminal, regarding produce items to be weighed by said electronic produce scale, as well as display such information for the cashier to review;

wherein the second display panel at said customer-kiosk terminal enables the customer to view the displayed price of scanned products and the displayed weight and price of weighed items, as well as enter and display information pertaining to financial transactions being carried out in connection with the purchase of products and/or produce at said POS environment; and

wherein the second visual display panel is also provided with an Advertisement/Promotion Mode enabling the display of advertisements and/or promotions while the cashier is not scanning products and the price and product information thereof is not being displayed on said second visual display terminal.--

--46. The POS station of claim 45, wherein said advertisements and promotions relate to items selected from the group consisting of: products offered for sale in the kiosk-hosting retailer's store; services and products offered for sale in local and/or regional markets; community news; sporting events; recreational events; and local educational programs and events.--

--47. The POS station of claim 33, wherein said electronic produce scale further comprises a produce weigh tray supported upon said bioptical laser scanning bar code reading unit and having a recessed surface region for slidably receiving the full weight of produce items under gravitational loading so that the full weight of the produce items to be purchased is accurately measured by said electronic produce scale integrated within the bottom portion of bioptical laser scanning bar code reading unit.--

--48. The POS station of claim 45, wherein said customer-kiosk terminal is realized as a modular assembly connectable to said housing, and wherein said modular assembly comprises an ATM submodule removably detached to a first installation port provided on said modular assembly, and a phone submodule removably detached to a second installation port provided on said modular assembly.--

-49. The POS station of claim 45, wherein said advertisements and promotions can relate to the products offered for sale in the kiosk-hosting retailer store, services and products offered for sale in local and/or regional markets, as well as community news, sporting events, recreational events as well as local educational programs.--

--50. The POS station of claim 45, wherein said bioptical laser scanning bar code reading unit comprises:

a plurality of VLDs, light focusing optics, scanning motors and scanning optics for producing and scanning laser scanning beams so as to project a laser scanning pattern through the horizontal and vertical scanning windows of the system, and scan bar codes on objects being moved thereby by the cashier, and light collection optics for collecting the focusing the return laser light signal for subsequent photodetection;

a plurality of laser scan data generator and processing modules including a plurality of photodetectors, for producing scan data signals, that are ultimately decode-processed in order to produce symbol character data representative of the bar code symbol scanned by the system; and

a computing platform including a microprocessor, a memory architecture, a system bus architecture and an I/O interface connected to the system bus architecture for enabling the collection, processing and transport of data elements generated by the various components in the system.--

--51. The POS station of claim 45, wherein said computing platform comprises an operating system (OS), networking software to support the TCP/IP protocol, and Internet access software to access the WWW and other information resources on the Internet.--

--52. The POS station of claim 45, wherein said first visual display panel is realized as a first LCD panel, said second display panel is realized as a second LCD panel, and second keyboard is realized as a touch-screen keypad mounted on said second LCD panel.--

--53. The POS station of claim 45, wherein said customer-kiosk terminal further comprises a bar code symbol reader integrated with said computing platform.--

- 54. The POS station of claim 50, wherein said customer-kiosk terminal comprises:
a network interface controller (NIC) card operably connected to the system bus architecture, for enabling data packet communications over an packet-switched information network; and
a multi-port Ethernet hub device connected to said NIC card and said customer-kiosk terminal, so that said system has one or more Ethernet data ports for operable connection to said packet-switched information network.--
- 55. The POS station of claim 41, wherein said customer-kiosk terminal further comprises a telephone handset integrated with said computing platform, and having software components running thereon to support its voice communication functions over the Internet, or alternatively, over a Public Telecommunications Switching Network (PTSN).--
- 56. The POS station of claim 33, wherein the vertical portion of said bioptical laser scanning bar code reading unit, said cashier-scale terminal, and said customer-kiosk terminal are contained in a housing of generally unitary construction.--
- 57. A point of sale (POS) station for installation in a retail shopping environment, comprising:
a counter-surface installed in said retail shopping environment; and
a bar code reading system installed in said counter-surface, said bar code reading system including:
a bioptical laser scanning bar code reading unit having a bottom portion having a horizontal scanning window installable through said counter-surface, and a vertical portion operably connected with said bottom portion and having a vertical scanning window;
an electronic produce scale integrated within said bottom portion of said bioptical laser scanning bar code reading unit;
a housing connected to said vertical portion of said bioptical laser scanning bar code reading unit, defining a cashier's side of the system and a customer's side of the system;
a cashier-scale terminal integrated with said bioptical laser scanning bar code reading unit, and having a first visual display panel and a first keyboard provided on the cashier's side of said housing; and

a customer-kiosk terminal integrated with said bioptical laser scanning bar code reading unit, and having with a second visual display panel and second keyboard integrated therewith provided on the customer's side of said housing;

wherein the first display panel at said cashier-scale terminal enables the cashier to enter information into said cashier-scale terminal regarding produce items to be weighed by said electronic produce scale, as well as display such information for the cashier to review; and

wherein the second display panel at said customer-kiosk terminal enables the customer to view the displayed price of scanned items and the displayed weight and price of weighed items, as well as enter and display information pertaining to financial transactions being carried out in connection with the purchase of products and/or produce at said POS environment.--

--58. The POS station of claim 57, wherein said electronic produce scale further comprises a produce weigh tray supported upon said bioptical laser scanning bar code reading unit and having a recessed surface region for slidably receiving the full weight of produce items under gravitational loading so that the full weight of the produce items to be purchased is accurately measured by said electronic produce scale integrated within the bottom portion of bioptical laser scanning bar code reading unit.--

--59. The POS station of claim 57, wherein said customer-kiosk terminal is realized as a modular assembly connectable to said housing, and wherein said modular assembly comprises an ATM submodule removably detached to a first installation port provided on said housing, and a phone submodule removably detached to a second installation port provided on said housing.--

--60. The POS station of claim 57, wherein the second display panel associated with said customer-kiosk terminal is provided with an Advertisement/Promotion Mode capable of displaying advertisements and/or promotions while the cashier is not scanning products and the price and product information thereof is not being displayed on said second display panel.--

--61. The POS station of claim 60, wherein said advertisements and promotions can relate to the products offered for sale in the kiosk-hosting retailer store, services and products offered for sale

in local and/or regional markets, as well as community news, sporting events, recreational events as well as local educational programs.--

--62. The POS station of claim 57, wherein said bioptical laser scanning bar code reading unit comprises:

a plurality of VLDs, light focusing optics, scanning motors and scanning optics for producing and scanning laser scanning beams so as to project a laser scanning pattern through the horizontal and vertical scanning windows of the system, and scan bar codes on objects being moved thereby by the cashier, and light collection optics for collecting the focusing the return laser light signal for subsequent photodetection;

a plurality of laser scan data generator and processing modules including a plurality of photodetectors, for producing scan data signals, that are ultimately decode-processed in order to produce symbol character data representative of the bar code symbol scanned by the system; and

a computing platform including a microprocessor, a memory architecture, a system bus architecture and an I/O interface connected to the system bus architecture for enabling the collection, processing and transport of data elements generated by the various components in the system.--

--63. The POS station of claim 62, wherein said computing platform has an operating system (OS), networking software to support the TCP/IP protocol, and Internet access software to access the WWW and other information resources on the Internet.--

--64. The POS station of claim 63, wherein said first visual display panel is realized as a first LCD panel, said second display panel is realized as a second LCD panel, and second keyboard is realized as a touch-screen keypad mounted on said second LCD panel.--

--65. The POS station of claim 57, wherein said customer-kiosk terminal further comprises a bar code symbol reader integrated with said computing platform.--

--66. The POS station of claim 62, wherein said customer-kiosk terminal comprises:

a network interface controller (NIC) card operably connected to a system bus architecture, for enabling data packet communications over an packet-switched information network; and

a multi-port Ethernet hub device connected to said NIC card and said customer-kiosk terminal, so that said system has one or more Ethernet data ports for operable connection to said packet-switched network.--

--67. The POS station of claim 65, wherein said customer-kiosk terminal further comprises a voice-over-IP telephone handset integrated with said computing system, and having software components running thereon to support its voice communication functions over the Internet, or alternatively, over a Public Telecommunications Switching Network (PTSN).--

--68. The POS station of claim 57, wherein the vertical portion of said bioptical laser scanning bar code reading unit, said cashier-scale terminal, and said customer-kiosk terminal are contained in a housing of generally unitary construction.--

--69. A point of sale (POS) station for installation in a retail shopping environment, comprising:

a counter-surface installed in said retail shopping environment; and

a bar code reading system installed in said counter-surface, said bar code reading system including:

a laser scanning bar code reading unit having a bottom portion having a horizontal scanning window;

an electronic produce scale integrated within said bottom portion of said laser scanning bar code reading unit;

a housing connected to said bottom portion of said laser scanning bar code reading unit, defining a cashier's side of the system and a customer's side of the system;

a cashier-scale terminal integrated with said laser scanning bar code reading unit, and having a first visual display panel and a first keyboard provided on the cashier's side of said housing, and

customer-kiosk terminal integrated with said bioptical laser scanning bar code reading unit, and having with a second visual display panel and second keyboard integrated therewith provided on the cashier's side of said housing;

wherein the first display panel at said cashier-scale terminal enables the cashier to (1) enter information into said cashier-scale terminal, regarding produce items to be weighed by said electronic produce scale, as well as (2) display such information for the cashier to review;

wherein the second display panel at said customer-kiosk terminal enables the customer to (1) view the displayed price of scanned products and the displayed weight and price of weighed items, as well as (2) enter and display information pertaining to financial transactions being carried out in connection with the purchase of products and/or produce at said POS environment; and

wherein the second visual display panel is also provided with an Advertisement/Promotion Mode enabling the display of advertisements and/or promotions while the cashier is not scanning products and the price and product information thereof is not being displayed on said second visual display terminal.--

--70. The POS station of claim 68, wherein said advertisements and promotions relate to items selected from the group consisting of: products offered for sale in the kiosk-hosting retailer's store; services and products offered for sale in local and/or regional markets; community news; sporting events; recreational events; and local educational programs and events.--

--71. The POS station of claim 57, wherein said electronic produce scale further comprises a produce weigh tray supported upon said laser scanning bar code reading unit and having a recessed surface region for slidably receiving the full weight of produce items under gravitational loading so that the full weight of the produce items to be purchased is accurately measured by said electronic produce scale integrated within the bottom portion of laser scanning bar code reading unit.--

--72. The POS station of claim 69, wherein said customer-kiosk terminal is realized as a modular assembly connectable to said housing, and wherein said modular assembly comprises an ATM submodule removably detached to a first installation port provided on said modular assembly,

and a phone submodule removably detached to a second installation port provided on said modular assembly.--

--73. The POS station of claim 69, wherein said advertisements and promotions can relate to the products offered for sale in the kiosk-hosting retailer store, services and products offered for sale in local and/or regional markets, as well as community news, sporting events, recreational events as well as local educational programs.--

--74. The POS station of claim 69, wherein said bioptical laser scanning bar code reading unit comprises:

- a laser beam scanning mechanism for producing and scanning laser scanning beams so as to project a laser scanning pattern through the horizontal scanning window of the system, and scan bar codes on objects being moved thereby by the cashier, and light collection optics for collecting the focusing the return laser light signal for subsequent photodetection;

- a scan data signal generating and processing module including at least one photodetector, for producing a scan data signal, that is decode-processed in order to produce symbol character data representative of the bar code symbol scanned by the system; and

- a computing platform including a microprocessor, a memory architecture, a system bus architecture and an I/O interface connected to the system bus architecture for enabling the collection, processing and transport of data elements generated by the various components in the system.--

--75. The POS station of claim 69, wherein said computing platform comprises an operating system (OS), networking software to support the TCP/IP protocol, and Internet access software to access the WWW and other information resources on the Internet.--

--76. The POS station of claim 69, wherein said first visual display panel is realized as a first LCD panel, said second display panel is realized as a second LCD panel, and second keyboard is realized as a touch-screen keypad mounted on said second LCD panel.--

--77. The POS station of claim 69, wherein said customer-kiosk terminal further comprises a bar code symbol reader integrated with said computing platform.--

--78. The POS station of claim 74, wherein said customer-kiosk terminal comprises:
a network interface controller (NIC) card operably connected to the system bus architecture, for enabling data packet communications over an packet-switched information network; and

a multi-port Ethernet hub device connected to said NIC card and said customer-kiosk terminal, so that said system has one or more Ethernet data ports for operable connection to said packet-switched information network.--

--79. The POS station of claim 65, wherein said customer-kiosk terminal further comprises a telephone handset integrated with said computing platform, and having software components running thereon to support its voice communication functions over the Internet, or alternatively, over a Public Telecommunications Switching Network (PTSN).--

--80. The POS station of claim 57, wherein the vertical portion of said bioptical laser scanning bar code reading unit, said cashier-scale terminal, and said customer-kiosk terminal are contained in a housing of generally unitary construction.--

AMENDMENT OF THE ABSTRACT:

Please amend the Abstract to read as follows:

--ABSTRACT OF INVENTION

A point of sale (POS) station installed within a retail shopping environment. The POS station comprises a bar code reading system installed in a counter-surface at the POS station. The bar code reading system comprises a bioptical laser scanning bar code reading unit having a bottom portion having a horizontal scanning window installable through the counter-surface, and a vertical portion operably connected with the bottom portion and having a vertical scanning

window. An electronic produce scale is integrated within the bottom portion of the bioptical laser scanning bar code reading unit. A housing is connected to the vertical portion of the bioptical laser scanning bar code reading unit, defining a cashier's side of the system and a customer's side of the system. A cashier-scale terminal is integrated with the bioptical laser scanning bar code reading unit, and has a first visual display panel and a first keyboard provided on the cashier's side of the housing. A customer-kiosk terminal is integrated with the bioptical laser scanning bar code reading unit, and has with a second visual display panel and second keyboard integrated therewith provided on the customer's side of the housing. The first display panel at the cashier-scale terminal enables the cashier to enter information into the cashier-scale terminal regarding produce items to be weighed by the electronic produce scale, as well as display such information for the cashier to review. The second display panel at the customer-kiosk terminal enables the customer to view the displayed price of scanned items and the displayed weight and item-identity data of weighed items, as well as enter and display information pertaining to financial transactions being carried out in connection with the purchase of products and/or produce at the POS environment. By virtue of the present invention, the retail customer is able to view product price and weight information in an easier manner, while reviewing advertisements and promotions at times when product price and weight information are not being displayed. Also, by integrating a financial transaction terminal into the customer-kiosk terminal, it is now possible to provide an ultra-compact unit which occupies less space on retail counter-surfaces.--

REQUIREMENT UNDER 37 C.F.R. 1.121

As required under 37 C.F.R. 1.121, a clean version of the first paragraph of Page 1 is as follows:

ai
This is a Continuation of copending Application Serial No. 10/053,486 filed January 16, 2002, which is a Continuation-in-Part of copending Application Serial Nos.: 10/045,577 filed January 11, 2002; and Application No. 10/045,605 filed January 11, 2002; 09/990,585 filed November 21, 2001; 09/999,687 filed October 31, 2001; 09/954,477 filed September 17, 2001; and 09/551,887 filed April 18, 2000; and is also related to International Application PCT/US01/44011 filed November 21, 2001; each of said Applications being owned by Assignee, Metrologic Instruments, Inc., of Blackwood, New Jersey, and incorporated herein by reference as if fully set forth herein.

As also required under 37 C.F.R. 1.121, a clean set of the amended Claims is set forth below.

R.1.126

31. A point of sale (POS) station for installation in a retail shopping environment, comprising:
a counter-surface installed in said retail shopping environment; and
a bar code reading system installed in said counter-surface, said bar code reading system including:
a bioptical laser scanning bar code reading unit having a bottom portion having a horizontal scanning window installable through said counter-surface, and a vertical portion operably connected with said bottom portion and having a vertical scanning window;
an electronic produce scale integrated within said bottom portion of said bioptical laser scanning bar code reading unit;
a housing connected to said vertical portion of said bioptical laser scanning bar code reading unit, defining a cashier's side of the system and a customer's side of the system;
a cashier-scale terminal integrated with said bioptical laser scanning bar code reading unit, and having a first visual display panel and a first keyboard provided on the cashier's side of said housing; and
a customer-kiosk terminal integrated with said bioptical laser scanning bar code reading unit, and having with a second visual display panel and second keyboard integrated therewith provided on the customer's side of said housing;
wherein the first display panel at said cashier-scale terminal enables the cashier to enter information into said cashier-scale terminal regarding produce items to be weighed by said electronic produce scale, as well as display such information for the cashier to review; and
wherein the second display panel at said customer-kiosk terminal enables the customer to view the displayed price of scanned items and the displayed weight and price of weighed items, as well as enter and display information pertaining to financial transactions being carried out in connection with the purchase of products and/or produce at said POS environment.

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34. The POS station of claim ³¹~~33~~, wherein said electronic produce scale further comprises a produce weigh tray supported upon said bioptical laser scanning bar code reading unit and having a recessed surface region for slidably receiving the full weight of produce items under

gravitational loading so that the full weight of the produce items to be purchased is accurately measured by said electronic produce scale integrated within the bottom portion of bioptical laser scanning bar code reading unit.

²³
~~35~~. The POS station of claim ²¹~~35~~, wherein said customer-kiosk terminal is realized as a modular assembly connectable to said housing, and wherein said modular assembly comprises an ATM submodule removably detached to a first installation port provided on said housing, and a phone submodule removably detached to a second installation port provided on said housing.

²⁴
~~36~~. The POS station of claim ²¹~~36~~, wherein the second display panel associated with said customer-kiosk terminal is provided with an Advertisement/Promotion Mode capable of displaying advertisements and/or promotions while the cashier is not scanning products and the price and product information thereof is not being displayed on said second display panel.

²⁵
~~37~~. The POS station of claim ²⁴~~37~~, wherein said advertisements and promotions can relate to the products offered for sale in the kiosk-hosting retailer store, services and products offered for sale in local and/or regional markets, as well as community news, sporting events, recreational events as well as local educational programs.

²⁶
~~38~~. The POS station of claim ²¹~~38~~, wherein said bioptical laser scanning bar code reading unit comprises:

a plurality of VLDs, light focusing optics, scanning motors and scanning optics for producing and scanning laser scanning beams so as to project a laser scanning pattern through the horizontal and vertical scanning windows of the system, and scan bar codes on objects being moved thereby by the cashier, and light collection optics for collecting the focusing the return laser light signal for subsequent photodetection;

a plurality of laser scan data generator and processing modules including a plurality of photodetectors, for producing scan data signals, that are ultimately decode-processed in order to produce symbol character data representative of the bar code symbol scanned by the system; and

a computing platform including a microprocessor, a memory architecture, a system bus architecture and an I/O interface connected to the system bus architecture for enabling the

collection, processing and transport of data elements generated by the various components in the system.

²⁶
~~37~~ 39. The POS station of claim ~~38~~, wherein said computing platform has an operating system (OS), networking software to support the TCP/IP protocol, and Internet access software to access the WWW and other information resources on the Internet.

²⁷
~~38~~ 40. The POS station of claim ~~39~~, wherein said first visual display panel is realized as a first LCD panel, said second display panel is realized as a second LCD panel, and second keyboard is realized as a touch-screen keypad mounted on said second LCD panel.

²¹
~~31~~ 41. The POS station of claim ~~33~~, wherein said customer-kiosk terminal further comprises a bar code symbol reader integrated with said computing platform.

²⁶
~~30~~ 42. The POS station of claim ~~38~~, wherein said customer-kiosk terminal comprises:
a network interface controller (NIC) card operably connected to a system bus architecture, for enabling data packet communications over an packet-switched information network; and

a multi-port Ethernet hub device connected to said NIC card and said customer-kiosk terminal, so that said system has one or more Ethernet data ports for operable connection to said packet-switched network.

²⁹
~~31~~ 43. The POS station of claim ~~41~~, wherein said customer-kiosk terminal further comprises a voice-over-IP telephone handset integrated with said computing system, and having software components running thereon to support its voice communication functions over the Internet, or alternatively, over a Public Telecommunications Switching Network (PTSN).

²¹
~~32~~ 44. The POS station of claim ~~33~~, wherein the vertical portion of said bioptical laser scanning bar code reading unit, said cashier-scale terminal, and said customer-kiosk terminal are contained in a housing of generally unitary construction.

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33
45. A point of sale (POS) station for installation in a retail shopping environment, comprising:
a counter-surface installed in said retail shopping environment; and
a bar code reading system installed in said counter-surface, said bar code reading system including:
a bioptical laser scanning bar code reading unit having a bottom portion having a horizontal scanning window, and a vertical portion operably connected with said bottom portion and having a vertical scanning window;
an electronic produce scale integrated within said bottom portion of said bioptical laser scanning bar code reading unit;
a housing connected to said vertical portion of said bioptical laser scanning bar code reading unit, defining a cashier's side of the system and a customer's side of the system;
a cashier-scale terminal integrated with said bioptical laser scanning bar code reading unit, and having a first visual display panel and a first keyboard provided on the cashier's side of said housing, and
customer-kiosk terminal integrated with said bioptical laser scanning bar code reading unit, and having with a second visual display panel and second keyboard integrated therewith provided on the cashier's side of said housing;
wherein the first display panel at said cashier-scale terminal enables the cashier to enter information into said cashier-scale terminal, regarding produce items to be weighed by said electronic produce scale, as well as display such information for the cashier to review;
wherein the second display panel at said customer-kiosk terminal enables the customer to view the displayed price of scanned products and the displayed weight and price of weighed items, as well as enter and display information pertaining to financial transactions being carried out in connection with the purchase of products and/or produce at said POS environment; and
wherein the second visual display panel is also provided with an Advertisement/Promotion Mode enabling the display of advertisements and/or promotions while the cashier is not scanning products and the price and product information thereof is not being displayed on said second visual display terminal.

34
46. The POS station of claim 33, wherein said advertisements and promotions relate to items selected from the group consisting of: products offered for sale in the kiosk-hosting retailer's

store; services and products offered for sale in local and/or regional markets; community news; sporting events; recreational events; and local educational programs and events.

³⁵
~~37~~ 37. The POS station of claim ²¹~~33~~, wherein said electronic produce scale further comprises a produce weigh tray supported upon said bioptical laser scanning bar code reading unit and having a recessed surface region for slidably receiving the full weight of produce items under gravitational loading so that the full weight of the produce items to be purchased is accurately measured by said electronic produce scale integrated within the bottom portion of bioptical laser scanning bar code reading unit.

³⁶
~~38~~ 38. The POS station of claim ³⁵~~45~~, wherein said customer-kiosk terminal is realized as a modular assembly connectable to said housing, and wherein said modular assembly comprises an ATM submodule removably detached to a first installation port provided on said modular assembly, and a phone submodule removably detached to a second installation port provided on said modular assembly.

³⁷
~~49~~ 49. The POS station of claim ³⁵~~45~~, wherein said advertisements and promotions can relate to the products offered for sale in the kiosk-hosting retailer store, services and products offered for sale in local and/or regional markets, as well as community news, sporting events, recreational events as well as local educational programs.

³⁸
~~50~~ 50. The POS station of claim ³⁵~~45~~, wherein said bioptical laser scanning bar code reading unit comprises:

a plurality of VLDs, light focusing optics, scanning motors and scanning optics for producing and scanning laser scanning beams so as to project a laser scanning pattern through the horizontal and vertical scanning windows of the system, and scan bar codes on objects being moved thereby by the cashier, and light collection optics for collecting the focusing the return laser light signal for subsequent photodetection;

a plurality of laser scan data generator and processing modules including a plurality of photodetectors, for producing scan data signals, that are ultimately decode-processed in order to produce symbol character data representative of the bar code symbol scanned by the system; and

a computing platform including a microprocessor, a memory architecture, a system bus architecture and an I/O interface connected to the system bus architecture for enabling the collection, processing and transport of data elements generated by the various components in the system.

39
51. The POS station of claim ~~45~~³³, wherein said computing platform comprises an operating system (OS), networking software to support the TCP/IP protocol, and Internet access software to access the WWW and other information resources on the Internet.

40
52. The POS station of claim ~~45~~³³, wherein said first visual display panel is realized as a first LCD panel, said second display panel is realized as a second LCD panel, and second keyboard is realized as a touch-screen keypad mounted on said second LCD panel.

41
53. The POS station of claim ~~45~~³³, wherein said customer-kiosk terminal further comprises a bar code symbol reader integrated with said computing platform.

42
54. The POS station of claim ~~50~~³⁸, wherein said customer-kiosk terminal comprises:
a network interface controller (NIC) card operably connected to the system bus architecture, for enabling data packet communications over an packet-switched information network; and
a multi-port Ethernet hub device connected to said NIC card and said customer-kiosk terminal, so that said system has one or more Ethernet data ports for operable connection to said packet-switched information network.

43
55. The POS station of claim ~~41~~²⁹, wherein said customer-kiosk terminal further comprises a telephone handset integrated with said computing platform, and having software components running thereon to support its voice communication functions over the Internet, or alternatively, over a Public Telecommunications Switching Network (PTSN).

44
36. The POS station of claim ~~33~~²¹, wherein the vertical portion of said bioptical laser scanning bar code reading unit, said cashier-scale terminal, and said customer-kiosk terminal are contained in a housing of generally unitary construction.

45
37. A point of sale (POS) station for installation in a retail shopping environment, comprising:
a counter-surface installed in said retail shopping environment; and
a bar code reading system installed in said counter-surface, said bar code reading system including:
a bioptical laser scanning bar code reading unit having a bottom portion having a horizontal scanning window installable through said counter-surface, and a vertical portion operably connected with said bottom portion and having a vertical scanning window;
an electronic produce scale integrated within said bottom portion of said bioptical laser scanning bar code reading unit;
a housing connected to said vertical portion of said bioptical laser scanning bar code reading unit, defining a cashier's side of the system and a customer's side of the system;
a cashier-scale terminal integrated with said bioptical laser scanning bar code reading unit, and having a first visual display panel and a first keyboard provided on the cashier's side of said housing; and
a customer-kiosk terminal integrated with said bioptical laser scanning bar code reading unit, and having with a second visual display panel and second keyboard integrated therewith provided on the customer's side of said housing;
wherein the first display panel at said cashier-scale terminal enables the cashier to enter information into said cashier-scale terminal regarding produce items to be weighed by said electronic produce scale, as well as display such information for the cashier to review; and
wherein the second display panel at said customer-kiosk terminal enables the customer to view the displayed price of scanned items and the displayed weight and price of weighed items, as well as enter and display information pertaining to financial transactions being carried out in connection with the purchase of products and/or produce at said POS environment.

46
38. The POS station of claim ~~37~~⁴⁵, wherein said electronic produce scale further comprises a produce weigh tray supported upon said bioptical laser scanning bar code reading unit and

having a recessed surface region for slidably receiving the full weight of produce items under gravitational loading so that the full weight of the produce items to be purchased is accurately measured by said electronic produce scale integrated within the bottom portion of bioptical laser scanning bar code reading unit.

⁴⁷
~~59~~. The POS station of claim ⁴⁵~~57~~, wherein said customer-kiosk terminal is realized as a modular assembly connectable to said housing, and wherein said modular assembly comprises an ATM submodule removably detached to a first installation port provided on said housing, and a phone submodule removably detached to a second installation port provided on said housing.

⁴⁸
~~60~~. The POS station of claim ⁴⁵~~57~~, wherein the second display panel associated with said customer-kiosk terminal is provided with an Advertisement/Promotion Mode capable of displaying advertisements and/or promotions while the cashier is not scanning products and the price and product information thereof is not being displayed on said second display panel.

⁴⁹
~~61~~. The POS station of claim ⁴⁸~~60~~, wherein said advertisements and promotions can relate to the products offered for sale in the kiosk-hosting retailer store, services and products offered for sale in local and/or regional markets, as well as community news, sporting events, recreational events as well as local educational programs.

⁵⁰
~~62~~. The POS station of claim ⁴⁵~~57~~, wherein said bioptical laser scanning bar code reading unit comprises:

a plurality of VLDs, light focusing optics, scanning motors and scanning optics for producing and scanning laser scanning beams so as to project a laser scanning pattern through the horizontal and vertical scanning windows of the system, and scan bar codes on objects being moved thereby by the cashier, and light collection optics for collecting the focusing the return laser light signal for subsequent photodetection;

a plurality of laser scan data generator and processing modules including a plurality of photodetectors, for producing scan data signals, that are ultimately decode-processed in order to produce symbol character data representative of the bar code symbol scanned by the system; and

a computing platform including a microprocessor, a memory architecture, a system bus architecture and an I/O interface connected to the system bus architecture for enabling the collection, processing and transport of data elements generated by the various components in the system.

51
63. The POS station of claim ~~62~~⁵⁰, wherein said computing platform has an operating system (OS), networking software to support the TCP/IP protocol, and Internet access software to access the WWW and other information resources on the Internet.

52
64. The POS station of claim ~~63~~⁵¹, wherein said first visual display panel is realized as a first LCD panel, said second display panel is realized as a second LCD panel, and second keyboard is realized as a touch-screen keypad mounted on said second LCD panel.

53
65. The POS station of claim ~~64~~⁵², wherein said customer-kiosk terminal further comprises a bar code symbol reader integrated with said computing platform.

54
66. The POS station of claim ~~65~~⁵³, wherein said customer-kiosk terminal comprises:
a network interface controller (NIC) card operably connected to a system bus architecture, for enabling data packet communications over an packet-switched information network; and
a multi-port Ethernet hub device connected to said NIC card and said customer-kiosk terminal, so that said system has one or more Ethernet data ports for operable connection to said packet-switched network.

55
67. The POS station of claim ~~66~~⁵⁴, wherein said customer-kiosk terminal further comprises a voice-over-IP telephone handset integrated with said computing system, and having software components running thereon to support its voice communication functions over the Internet, or alternatively, over a Public Telecommunications Switching Network (PTSN).

56
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68. The POS station of claim 57, wherein the vertical portion of said bioptical laser scanning bar code reading unit, said cashier-scale terminal, and said customer-kiosk terminal are contained in a housing of generally unitary construction.

57
69. A point of sale (POS) station for installation in a retail shopping environment, comprising:
a counter-surface installed in said retail shopping environment; and
a bar code reading system installed in said counter-surface, said bar code reading system including:
a laser scanning bar code reading unit having a bottom portion having a horizontal scanning window;
an electronic produce scale integrated within said bottom portion of said laser scanning bar code reading unit;
a housing connected to said bottom portion of said laser scanning bar code reading unit, defining a cashier's side of the system and a customer's side of the system;
a cashier-scale terminal integrated with said laser scanning bar code reading unit, and having a first visual display panel and a first keyboard provided on the cashier's side of said housing, and
customer-kiosk terminal integrated with said bioptical laser scanning bar code reading unit, and having with a second visual display panel and second keyboard integrated therewith provided on the cashier's side of said housing;
wherein the first display panel at said cashier-scale terminal enables the cashier to (1) enter information into said cashier-scale terminal, regarding produce items to be weighed by said electronic produce scale, as well as (2) display such information for the cashier to review;
wherein the second display panel at said customer-kiosk terminal enables the customer to (1) view the displayed price of scanned products and the displayed weight and price of weighed items, as well as (2) enter and display information pertaining to financial transactions being carried out in connection with the purchase of products and/or produce at said POS environment; and
wherein the second visual display panel is also provided with an Advertisement/Promotion Mode enabling the display of advertisements and/or promotions while

the cashier is not scanning products and the price and product information thereof is not being displayed on said second visual display terminal.

⁵⁶
~~58~~ 60. The POS station of claim ~~68~~, wherein said advertisements and promotions relate to items selected from the group consisting of: products offered for sale in the kiosk-hosting retailer's store; services and products offered for sale in local and/or regional markets; community news; sporting events; recreational events; and local educational programs and events.

⁴⁵
~~59~~ 61. The POS station of claim ~~57~~, wherein said electronic produce scale further comprises a produce weigh tray supported upon said laser scanning bar code reading unit and having a recessed surface region for slidably receiving the full weight of produce items under gravitational loading so that the full weight of the produce items to be purchased is accurately measured by said electronic produce scale integrated within the bottom portion of laser scanning bar code reading unit.

⁵⁷
~~60~~ 62. The POS station of claim ~~69~~, wherein said customer-kiosk terminal is realized as a modular assembly connectable to said housing, and wherein said modular assembly comprises an ATM submodule removably detached to a first installation port provided on said modular assembly, and a phone submodule removably detached to a second installation port provided on said modular assembly.

⁵⁷
~~61~~ 63. The POS station of claim ~~69~~, wherein said advertisements and promotions can relate to the products offered for sale in the kiosk-hosting retailer store, services and products offered for sale in local and/or regional markets, as well as community news, sporting events, recreational events as well as local educational programs.

⁵⁷
~~62~~ 64. The POS station of claim ~~69~~, wherein said bioptical laser scanning bar code reading unit comprises:

a laser beam scanning mechanism for producing and scanning laser scanning beams so as to project a laser scanning pattern through the horizontal scanning window of the system, and

scan bar codes on objects being moved thereby by the cashier, and light collection optics for collecting the focusing the return laser light signal for subsequent photodetection;

a scan data signal generating and processing module including at least one photodetector, for producing a scan data signal, that is decode-processed in order to produce symbol character data representative of the bar code symbol scanned by the system; and

a computing platform including a microprocessor, a memory architecture, a system bus architecture and an I/O interface connected to the system bus architecture for enabling the collection, processing and transport of data elements generated by the various components in the system.

63
75. The POS station of claim ~~69~~⁵⁷, wherein said computing platform comprises an operating system (OS), networking software to support the TCP/IP protocol, and Internet access software to access the WWW and other information resources on the Internet.

64
76. The POS station of claim ~~69~~⁵⁷, wherein said first visual display panel is realized as a first LCD panel, said second display panel is realized as a second LCD panel, and second keyboard is realized as a touch-screen keypad mounted on said second LCD panel.

65
77. The POS station of claim ~~69~~⁵⁷, wherein said customer-kiosk terminal further comprises a bar code symbol reader integrated with said computing platform.

66
78. The POS station of claim ~~74~~⁶², wherein said customer-kiosk terminal comprises:
a network interface controller (NIC) card operably connected to the system bus architecture, for enabling data packet communications over an packet-switched information network; and

a multi-port Ethernet hub device connected to said NIC card and said customer-kiosk terminal, so that said system has one or more Ethernet data ports for operable connection to said packet-switched information network.

67
79. The POS station of claim ~~65~~⁵³, wherein said customer-kiosk terminal further comprises a telephone handset integrated with said computing platform, and having software components

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running thereon to support its voice communication functions over the Internet, or alternatively, over a Public Telecommunications Switching Network (PTSN).

68 45
80. The POS station of claim 57, wherein the vertical portion of said bioptical laser scanning bar code reading unit, said cashier-scale terminal, and said customer-kiosk terminal are contained in a housing of generally unitary construction.